WHAT IS CLAIMED IS:

1. A method of decoding a block code, the method comprising the steps of:
providing a Maximum Likelihood (ML) sparse decoder; and
decoding solely the a priori information of the code space subset used.

2. The method according to claim 1, wherein the step of decoding comprises using a known TFCS size to improve the decoder performance for a TFCI decoder used in a 3GPP compliant UE, wherein the UE at all times, is informed of the TFCS by a UTRAN through higher layer signaling.

3. The method according to claim 1, wherein the step of decoding comprises decoding a (32,10) Reed Muller code used in 3GPP for TFCI encoding in Normal mode.

4. The method according to claim 1, wherein the step of decoding comprises decoding a (16,5) bi-orthogonal code used in 3GPP for TFCI encoding in split mode.

5. The method according to claim 1, wherein the step of decoding comprises efficiently decoding TFCI for logical split mode.

6. The method according to claim 1, wherein the step of decoding comprises iterating all possible values of a predetermined transport format combination indicator (TFCI).

7. The method according to claim 6, wherein the step of decoding further comprises generating a corresponding encoded TFCI for the hypothesis that is being decoded in a desired iteration.

8. The method according to claim 7, wherein the step of decoding further comprises correlating the corresponding encoded TFCI to the soft output of an associated rake receiver.

9. The method according to claim 8, wherein the step of decoding further comprises comparing the correlation result for the current iteration with that of the immediately previous iteration to determine the most correlated hypothesis.

10. The method according to claim 7, wherein the step of decoding further comprises choosing from amongst the decoded TFCIs for transmission time intervals of longer than 10ms using an absolute reliability measure.

11. The method according to claim 7, wherein the step of decoding further comprises choosing from amongst the decoded TFCIs for transmission time intervals of longer than 10ms using a total reliability measure.

12. The method according to claim 1, wherein the step of decoding comprises efficiently decoding hard split TFCI to accommodate the release-5 version of the 3GPP standard.

13. A maximum likelihood (ML) sparse decoder for block codes comprising:

a hypothesis generator operational to iterate over all possible values of a predetermined transport format combination indicator (TFCI).;

a code word generator operational to generate a corresponding encoded TFCI for the hypothesis that is being decoded in a desired iteration;

a correlator operational to correlate the corresponding encoded TFCI to the soft output of an associated rake receiver; and

a maximum finder operational to compare the correlation result for the current iteration with that of the immediately previous iteration to determine the most correlated hypothesis.

14. The ML sparse decoder according to claim 13, wherein the correlator comprises a summer operational to sum the correlation results and generate a final correlation value.

15. A maximum likelihood (ML) sparse decoder for block codes comprising:

means for iterating over all possible values of a transport format combination indicator (TFCI);

means for generating a corresponding encoded TFCI for a hypothesis that is being decoded in a desired iteration;

means for correlating the corresponding encoded TFCI to the soft output of an associated rake receiver; and

means for comparing the correlation result for the current iteration with that of the immediately previous iteration to determine the most correlated hypothesis.

16. The ML sparse decoder according to claim 15, wherein the means for correlating comprises means for summing the correlation results and generating a final correlation value.